# S-LINK

# S-LINK-02 MANUAL

# 4RS232 CARD

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# CHAPTER 1 INTRODUCTION

The S-Link four ports RS232 card is a communication card which can link with computer and peripheral devices. There are four asynchronous port in a S-Link card and each port can be used in modem, serial printer plotter ... etc.

The S-Link four ports RS232 card, in hardware, can be used in any PC such as IBM PC/XT, AT, AT/386, AT/486, ...etc. in software, can be used in any Multi user operation system such as XENIX/UNIX, MS/DOS, PC-MOS/386, PICK, CONCURRENT DOS etc.

The S-Link four ports RS232 card can be expended to 14 port in a PC and can be used as standard COM1, COM2 or standard serial ports. The S-Link four ports RS232 card provides two modes. The first mode is normal mode, the second mode is enhance mode.. The detail will be described in next chapter.

## 1.1 FEATURES :

1. Four RS232C ports for asynchronous.
2. Suitable for XENIX/UNIX, PICK, MS/DOS, PC-MOS/MOS/386, CONCURRENT DOS etc.
3. AST fourport/XN, Arnet compatible.
4. Interrupt selectable (IRQ2-IRQ7).
5. I/O address selectable.
6. COM1 and COM2 compatible.

## 1.2 Package Check

1. S-Link four ports RS232 card.
2. Expansion cable with DB-37 Pin --> 4 x DB-25 Pin connector.
3. User manual.
4. Software.

# CHAPTER 2 INSTALLATION

## 2.1 Warning

Before you install S-Link four ports RS232 card, please make sure to turn off all power of your PC, or it will damage to your PC.

### Steps:

- Select correct switch and jumper.
- Insert S-Link four ports RS232 card.
- Screw bracket on case, then connect the DB-37 Pin --> 4 x DB-25 Pin cable.

# CHAPTER 3 MODE

## 3.1 Normal Mode

The S-Link four ports RS232 card can be used as standard RS232 COM1, COM2, please refer as follows:

| CARD | PORT |
|---|---|
| First Adapter | COM 1<br>COM 2<br>3<br>4 |
| Second Adapter | 5<br>6<br>7<br>8 |
| Third Adapter | 9<br>10<br>11<br>12 |

## 3.2 Enhance Mode

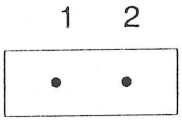
The S-Link four ports RS232 card can coexist with COM1, COM2, please refer as follows:

| CARD | PORT |
|---|---|
| Standard Port | COM 1<br>COM 2 |
| First Adapter | 1<br>2<br>3<br>4 |
| Second Adapter | 5<br>6<br>7<br>8 |
| Third Adapter | 9<br>10<br>11<br>12 |

# CHAPTER 4 SETTING

## 4.1 JP1 Setting

- Select wait state

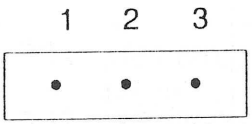



J P 1

Short : CPU speed above 16MHZ
Open : CPU speed lower than 16MHZ

## 4.2 JP2 Setting

- PC-MOS/386 Mode selection

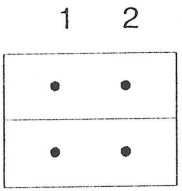



J P 2

1 2 Short: Normal mode
2 3 Open: PC-MOS/386 mode

## 4.3 JP3 Setting

- Mode selection




J P 3

Short : Normal mode
Open : Enhance mode

1 2 Select COM1
3 4 Select COM2

## 4.4 Switch Setting

- IRQ Selection

| SWITCH | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| IRQ | IRQ 2 | IRQ 3 | IRQ 4 | IRQ 5 | IRQ 6 | IRQ 7 |

- Address Selection

| SW7 SW8 | PORT 1 | PORT 2 | PORT 3 | PORT 4 | VECTOR | MODE |
|---|---|---|---|---|---|---|
| ON ON | 3F8-3FF | 2F8-2FF | 2B0-2B7 | 2B8-2BF | 2BF | NORMAL |
| ON OFF | 2A0-2A7 | 2A8-2AF | 2B0-2B7 | 2B8-2BF | 2BF | ENHANCE |
| OFF ON | 1A0-1A7 | 1A8-1AF | 1B0-1B7 | 1B8-1BF | 1BF | ENHANCE |
| OFF OFF | 180-187 | 188-18F | 190-197 | 198-19F | 19F | ENHANCE |

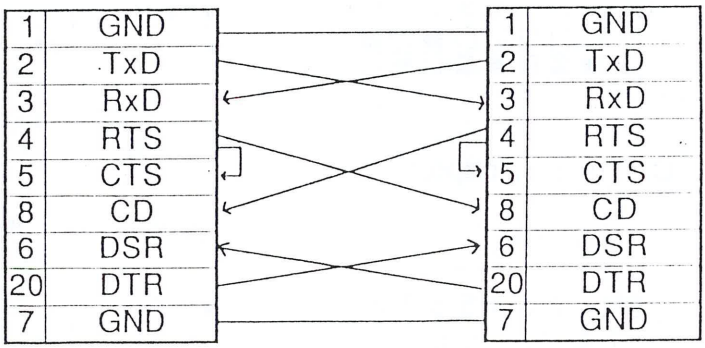
# CHAPTER 5 DB25 PIN CONNECTOR INFORMATION

## 5.1 DB25 Connector

The signal assignments for a standard DB25 connector are shown below:

| DB25 Pin # | Signal Name | RS-232C Name |
|---|---|---|
| 1 | Chassis Ground (GND) | AA |
| 2 | Transmit Data (TxD) | BA |
| 3 | Receive Data (RxD) | BB |
| 4 | Request to Send (RTS) | CA |
| 5 | Clear to Send (CTS) | CB |
| 6 | Data Set Ready (DSR) | CC |
| 7 | Signal Ground (SG) | AB |
| 8 | Data Carrier Detect (DCD) | CF |
| 20 | Data Terminal Ready (DTR) | CD |
| 22 | Ring Indicator (RI) | CE |

## 5.2 Cable Connection



# CHAPTER 6 MULTI OPERATION SYSTEM SETTING

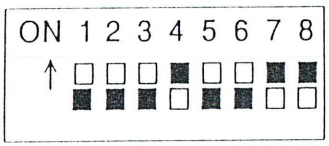
## 6.1 IBM XENIX CONFIGURATION

- Hardware Configuration

1. Normal Mode

A. First Adapter

SWITCH

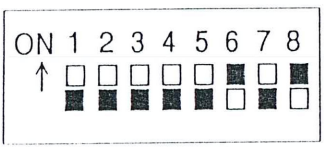



JP3

JP2

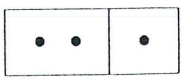
B. Second Adapter

SWITCH



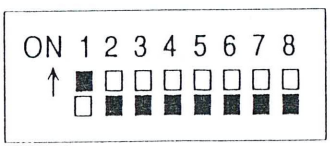

JP3

JP2



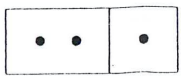
C. Third Adapter

SWITCH




JP3

JP2

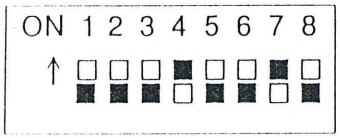


| CARD | PORT | DEVICE | ADDRESS | I R Q |
|---|---|---|---|---|
| FIRST ADAPTER | COM1 | /dev/tty00 | 3F8-3FF | 4 |
| | COM2 | /dev/tty01 | 2F8-2FF | 3 |
| | 3 | /dev/tty02 | 2B0-2B7 | 5 |
| | 4 | /dev/tty03 | 2B8-2BF | 5 |
| SECOND ADAPTER | 5 | /dev/tty04 | 1A0-1A7 | 7 |
| | 6 | /dev/tty05 | 1A8-1AF | 7 |
| | 7 | /dev/tty06 | 1B0-1B7 | 7 |
| | 8 | /dev/tty07 | 1B8-1BF | 7 |
| THIRD ADAPTER | 9 | /dev/tty08 | 180-187 | 2 |
| | 10 | /dev/tty09 | 188-18F | 2 |
| | 11 | /dev/tty10 | 190-197 | 2 |
| | 12 | /dev/tty11 | 198-19F | 2 |

## 2. Enhance Mode

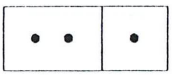
### A. First Adapter

SWITCH



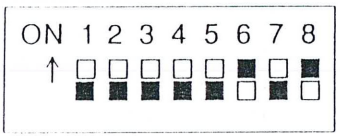

JP3

JP2



### B. Second Adapter

SWITCH

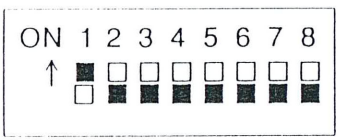



JP3

JP2

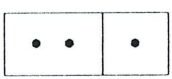
### C. Third Adapter

SWITCH




JP3

JP2



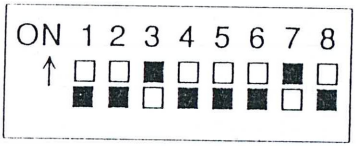
| CARD | PORT | DEVICE | ADDRESS | I R Q |
|---|---|---|---|---|
| STRANDARD ADAPTER | COM1 | /dev/tty00 | 3F8-3FF | 4 |
| | COM2 | /dev/tty01 | 2F8-2FF | 3 |
| FIRST ADAPTER | 1 | /dev/tty02 | 2A0-2A7 | 5 |
| | 2 | /dev/tty03 | 2A8-2AF | 5 |
| | 3 | /dev/tty04 | 2B0-2B7 | 5 |
| | 4 | /dev/tty05 | 2B8-2BF | 5 |
| SECOND ADAPTER | 5 | /dev/tty06 | 1A0-1A7 | 7 |
| | 6 | /dev/tty07 | 1A8-1AF | 7 |
| | 7 | /dev/tty08 | 1B0-1B7 | 7 |
| | 8 | /dev/tty09 | 1B8-1BF | 7 |
| THIRD ADAPTER | 9 | /dev/tty10 | 180-187 | 2 |
| | 10 | /dev/tty11 | 188-18F | 2 |
| | 11 | /dev/tty12 | 190-197 | 2 |
| | 12 | /dev/tty13 | 198-19F | 2 |

## 6.2 SCO XENIX CONFIGURATION

- Hardware Configuration

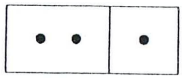
A. First Adapter (COM1)
ADDRESS : 2A0 - 2BF
IRQ : 4

SWITCH



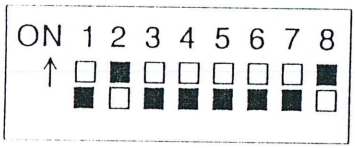

JP3

JP2



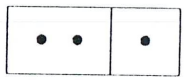
B. Second Adapter (COM2)
ADDRESS : 1A0 - 1BF
IRQ : 3

SWITCH




JP3

JP2

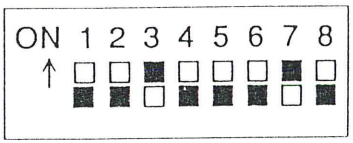


## 6.3 PC-MOS/386 CONFIGURATION

- Hardware Configuration

A. First Adapter
ADDRESS : 2A0 - 2BF
IRQ : 4

SWITCH

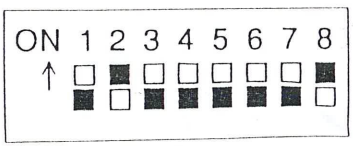



JP3

JP2

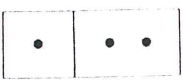
B. Second Adapter
ADDRESS : 1A0 - 1BF
IRQ : 3

SWITCH




JP3

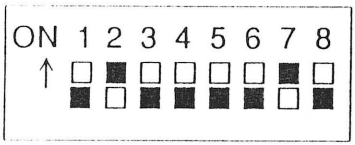
JP2



## 6.4 CONCURRENT DOS CONFIGURATION

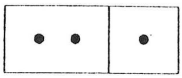
- Hardware Configuration
  ADDRESS : 2A0 - 2BF
  IRQ : 3

SWITCH




JP3

JP2

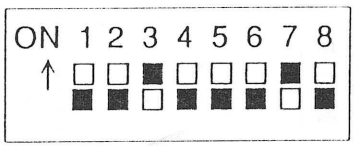


## 6.5 PICK CONFIGURATION

- Hardware Configuration

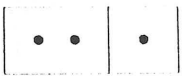
A. First Adapter
ADDRESS : 2A0 - 2BF
IRQ : 4

SWITCH



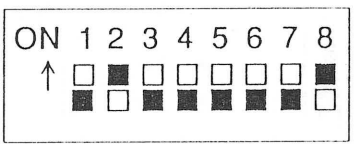

JP3

JP2



B. Second Adapter
ADDRESS : 1A0 - 1BF
IRQ : 3

SWITCH




JP3

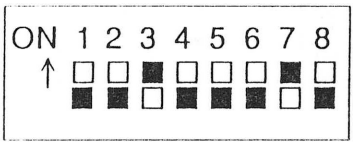
JP2

## 6.6 UNIX R3.2 OR UNIX R4.0 CONFIGURATION

- Hardware Configuration

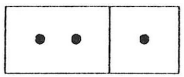
A. First Adapter
ADDRESS : 2A0 - 2BF
IRQ : 4

SWITCH



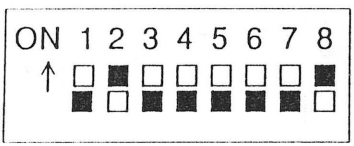

JP3

JP2



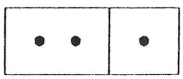
B. Second Adapter
ADDRESS : 1A0 - 1BF
IRQ : 3

SWITCH




JP3

JP2



# CHAPTER 7 SOFTWARE

## 7.1 Diagnostic Test

The 4R.COM program is test program which can test for S-Link-02 4 ports RS232 card. Please short TX RX, DTR DST RI, RTS CTS DCD of DB-37 Pin or 25 Pin, then keyin 4R under MS/DOS.

Such as

A > 4R

The S-Link 4 Ports RS232 Card will be tested.

## 7.2 Super Link Software

The S-Link four ports software is accessory with S-Link four ports RS232 Card for user to exectue under MS/DOS. This software can communicate with local peripheral device or terminal and it also can be used in far distance communication. The operation method is described below:

Under MS/DOS keyin
A > multi:
The screen will display as follows:

Config Telnet

02a0 02a8 02b0 02b8
Baud Rate: 2400 Parity:0 StopBit:1 Datalength:8 IRQ:3

Before you use multi program, please set config.sys
Such as device = ansi.sys

-STEP-

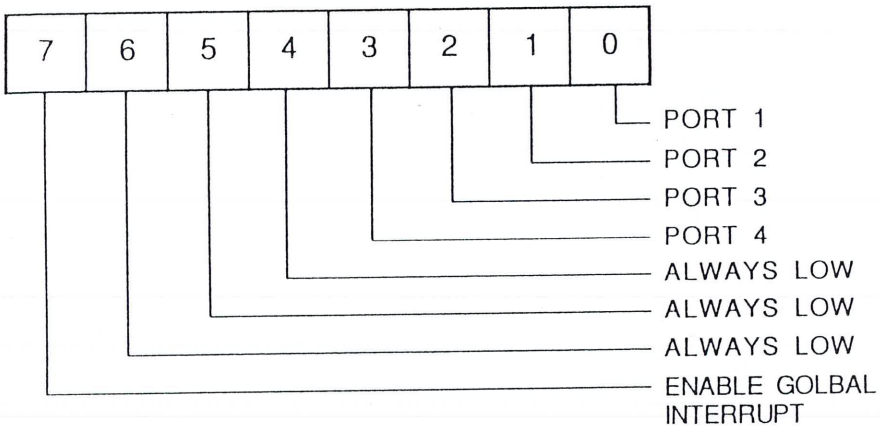
1 Select config
Use ← → to select config.
Then press return to set.
Use ↑ ↓ to select I/O address group.
Then press return to set.
Use ← → to select port that you want to use it.
Then press return to set.
Use ↑ ↓ elect Baud Rate, Parity, StopBit, Datalength, IRQ.
Use ← → to set.
Then press return to set. You will see the '✳' in I/O address. It means the port set completely. Use the same way to set other ports, then press esc to escape.

2 Select telent
Use ← → to select telent.
Then press return to set.
Use ← → to select port to execute.

3 MODEM connection
Keyin ' AMI ' then Keyin product number.
Keyin ' ATDT ' then keyin telephone number.
Keyin ' ATH ' hang up.
Good Luck !

## APPENDIX INTERRUPT VECTOR

The S-Link four ports RS232 card use interrupt vector to judge which port is working now. The content of interrupt vector shows below.




For Example:

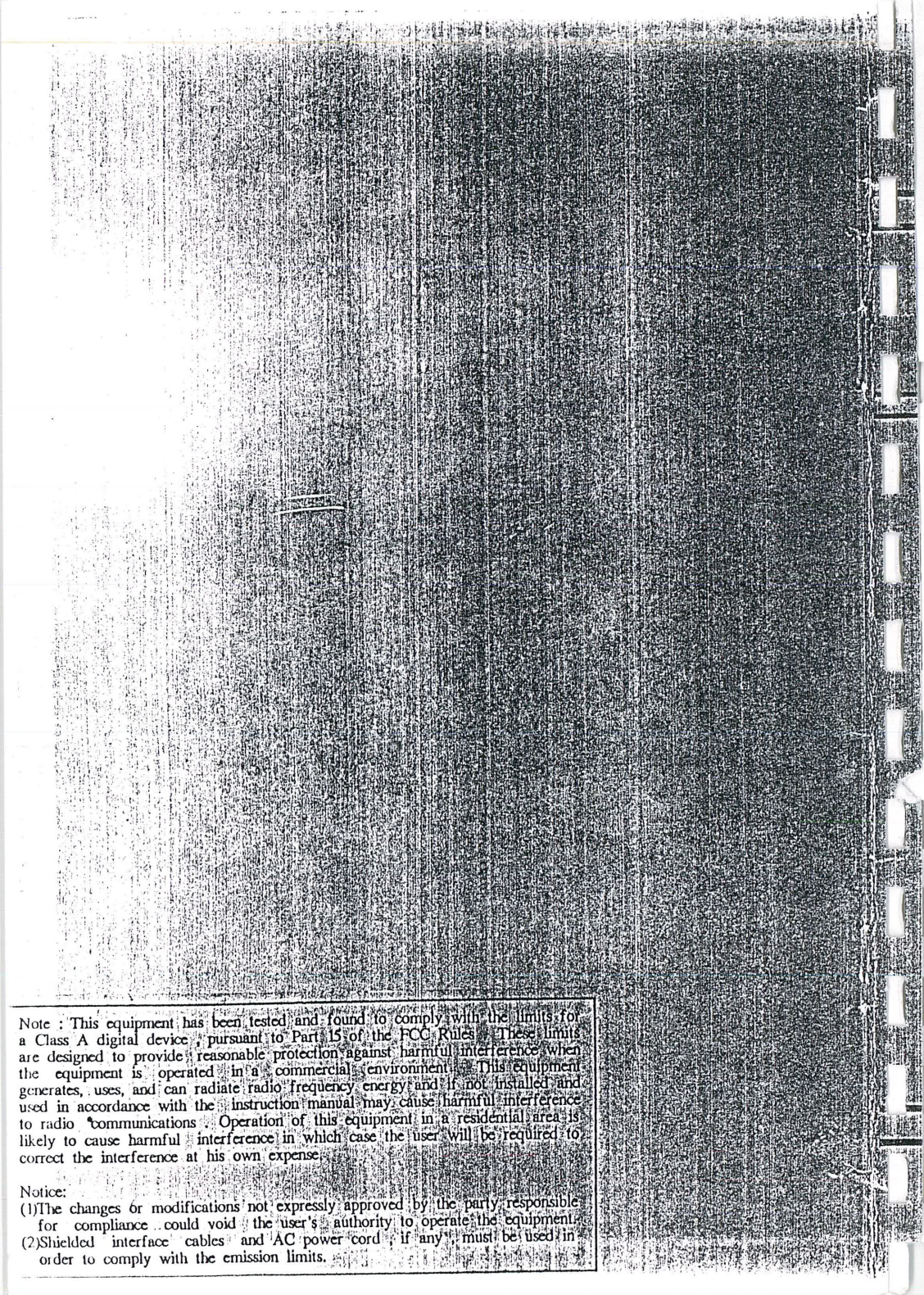
| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 2BF | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 |

If the interrupt vector address is 2BF and the bit 0is logical 0, it stands for port 1 that is working now. You may use program to develop any function that you need.

If you want to enable golbal interrupt, you must set bit 7 to logical 1.

Bit 7 = 1 Enable
Bit 7 = 0 Disable

*All names are the trademarks of their respective organizations



Note : This equipment has been tested and found to comply with the limits for a Class A digital device , pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instruction manual may cause harmful interference to radio communications . Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Notice:

(1)The changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

(2)Shielded interface cables and AC power cord , if any , must be used in order to comply with the emission limits.